Total No. of Questions : 12]

SEAT No. :

P4015

[Total No. of Pages : 3

[5353]-19

T.E. (Computer Engineering)

PRINCIPLES OF PROGRAMMING LANGUAGES

(2008 Pattern)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2 , Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12.***
2) ***Answers to the two sections should be written on separate answer books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Assume suitable data, if necessary.***

SECTION - I

Q1) a) Explain following characteristics of good programming language: **[10]**

i) Orthogonality

ii) Uniformity

iii) Implementability

iv) Readability

v) Writability

b) What is type checking? Explain static and dynamic type checking. **[8]**

OR

Q2) a) Why does the use of dynamic scoping imply the need for runtime type checking? **[4]**

b) What is binding and binding times? What are the different binding times? **[6]**

c) Explain with suitable example implicit and explicit type conversions. **[8]**

Q3) a) What are the benefits and limitations of procedural programming languages. **[8]**

b) Compare C and PASCAL programming languages **[8]**

OR

P.T.O.

Q4) a) Explain the following with reference to PASCAL Programming language: **[10]**

i) Scope rules

ii) Local and global variable

iii) Parameter passing

iv) Pointers

v) Data Types

b) Comment on desirable and undesirable characteristics of procedural programming. **[6]**

Q5) a) Compare different features of JAVA and C++ programming languages. **[8]**

b) Explain with example multi threading concept used in JAVA. **[8]**

OR

Q6) a) Explain with example concept of exception handling w.r.t JAVA. **[8]**

b) Explain different steps involved in socket programming for client server communication in JAVA. **[8]**

SECTION - II

Q7) a) Explain in brief following constructs with respect to .NET framework: **[10]**

i) Arrays

ii) Interfaces

iii) Event Handler

iv) Delegates

v) Classes and methods

b) Explain early binding and late binding with example. **[8]**

OR

Q8) a) What is assembly and delegates in C#? Explain with example. **[8]**

b) What is the significance of name space and explain it with respect to C#. **[8]**

c) Describe in brief structure of C# program. **[2]**

Q9) a) What is relation between resolution and unification? How resolution and unification algorithms work explain with example. **[8]**

b) Explain with example rules, facts and queries in prolog. **[8]**

OR

Q10)a) State and explain key features of logical programming specifications. **[8]**

b) Write note on applications of logical programming language. **[8]**

Q11)a) Explain numeric predicate functions supported by LISP. **[6]**

b) Explain various data types and data structures supported by LISP. **[10]**

OR

Q12)a) Describe following properties of functional programming language: **[8]**

i) Lazy function evaluation

ii) Referential transparency

b) Write a LISP function to concatenate two lists. **[8]**